

REMARKS

This is in response to the Office Action mailed on February 22, 2006 in which the Examiner rejected Claims 1-20. Claims 1-13 were rejected under 35 U.S.C. § 103(b) as being unpatentable over U.S. Patent No. 5,913,355 by Muramatsu (“Muramatsu”) in view of U.S. Patent No. 4, 027,726 by Hodler (“Hodler”). Claims 14-20 were rejected under 35 U.S.C. § 103(b) as unpatentable over Muramatsu in view of Hodler in further view of U.S. Patent No. 5,012,568 by DiSimone (“DiSimone”). In light of the Examiner’s rejections, Claims 1 – 13 and 16 – 20 have been amended to further clarify the benefits of the present invention, including features that are novel over the cited art.

The Office Action states that Muramatsu teaches a mold-block comprising “a pair of first-side channels (6)” that function as conduits for cooling fluid. (Office Action, Pages 2 - 3.) Muramatsu also includes “gas exhaust passageway 2.” (Muramatsu, Col. 1, line 47.) Hodler teaches the use of “screw fasteners 16 which are guided by means of spring washers 17 in slotted holes 15b.” (Hodler, Col. 1, lines 14 - 20.) Therefore, if Muramatsu were combined with Hodler, they would teach a purging block having a gas exhaust passage, cooling channels and mounting bores. However, it is not the mere presence of these features, but the specific configuration and relationship of these features plus additional features as presently claimed that the combination of the prior art fails to teach. Merely providing bores with mounting bolts or cooling fluid does not allow them to function as mounting means or cooling means. Furthermore, any attempt to combine bores 15b and channel 6 to form dual-purpose channels is not obvious without the benefit of the teachings of the present invention.

The presently claimed invention includes structurally related features that allow a single pair of channels to serve as mounting channels or cooling channels. Specifically, the pair of channels are placed in proximity to the gas exhaust passageway such that they are enabled to act as cooling channels. Also, additional mounting means must be provided such that the channels can serve as cooling channels. The present invention also includes secondary mounting means such that the purging block of the present invention is mountable in two configurations, wherein in one configuration the first mounting means are operable as cooling channels.

Amended Claims 1, 10 and 16 include a pair of channels for mounting a block half of the purging block in a first configuration. The pair of channels extend completely through the block

half enabling threaded fasteners to be inserted through the block such that they can secure the block directly to a molding or casting system. The channels “function as a means for mounting [the block half] to a cavity insert.” (Application Page 9, lines 17-18.) Bolts are inserted all the way through the block half to allow mounting in a first manner. (Application Page 9, lines 18-19.) The presently claimed invention also requires that the pair of channels be placed in proximity to the exhaust passageway in order to facilitate cooling of the gas exhaust passage, which cannot be accomplished if the channels are placed too far away.

The channels comprising element 6 of Muramatsu do not extend all the way through the block and therefore only comprise two access points on the top. Therefore, without access points on the bottom, channel 6 cannot receive threaded fasteners or be used as mounting channels as claimed in the present invention. Likewise, mounting bores 15b of Hodler cannot function as cooling channels as claimed in the present invention. Amended Claims 1, 11 and 16 require that the channels be placed close enough to the gas exchange channel so that they assist in transferring away heat when circulated with cooling fluid. Thus, bores 15b of Hodler would have to be adjacent venting duct 8 to be able to assist in transferring away heat. Mounting bores 15b are spaced too far from venting duct 8 to assist in cooling duct 8. As can be seen in FIGS. 2 and 3 of Hodler, vent 9 is between the mounting bore of bolt 18 and venting duct 8. Also, amended Claims 3, 12 and 20 require a cross channel extending from one of the side surfaces to connect the pair of channels, which further facilitates their use as cooling channels. Neither Hodler nor Muramatsu teach a cross channel extending from a side surface of the purging blocks.

Thus, neither mounting bores 15b or channel 6 can serve to be channels that act as mounting channels or cooling channels and simply combining Hodler with Muramatsu does not teach the presently claimed invention.

Amended Claims 2, 11 and 18 include a pair of channels for mounting a block half of the purging block in a first configuration, and an additional set of bores for mounting the block half in a second configuration. Neither Hodler nor Muamatsu teach the use of alternative mounting bores or means that allow the block half to be mounted in multiple configurations. The second mounting means comprise a plurality of bores on an outer side surface of the block half that allow mounting in a second manner. The bores are perpendicular to the pair of channels, for mounting the block half

with a molding or casting machine. The bores “allow [the block half] to be directly mounted to mold half 18.” (Application Page 12, lines 10-11.) “Additionally, bores 44 allow [the block half] to be installed externally to mold half 18.” (Application Page 12, lines 16-17.) Thus, the plurality of bores, in addition to the pair of channels, allow the block half to be mounted to a molding or casting system in a variety of applications.

Thus, the second mounting means do not merely duplicate the first mounting means; they provide an alternative mounting means that enable the block half to be mounted in alternative configurations. If there were two sets of merely duplicative mounting means, no advantage is gained by having them alternatively function as cooling channels or mounting means, as they both would always be required to perform the same function. Whereas in the present invention, the different configuration of the second mounting means would render the utility of a the first mounting means useless, but for their ability to function as cooling channels. Hodler, however, merely teaches providing mounting bores such that the block half can be mounted in only one configuration.

The Office Action states that Hodler generally teaches mounting bores for affixing the block half to a casting or molding machine. (Office Action Page 3.) Hodler only teaches the use of two vertically extending channels in each block half, which implicitly only allow the block half to be mounted in one manner. Hodler does not teach mounting bores or channels perpendicular, or in any other configuration, to the gas passageway or the pair of channels. Therefore, Hodler only teaches one method for mounting the block with the molding or casting machine and therefore does not teach two alternative methods for alternative mounting systems. There would also be no reason to add a second, duplicative set of the channels taught in Hodler. There would be no motivation to adapt one of the sets to function as cooling channels or mounting means (even assuming Muramatsu teaches how to adapt a mounting bore to a cooling channel, which it does not.), as there would always be a set of channels available for mounting and cooling. No duplicity of function would be needed. The present invention, however, includes means for mounting the block halves in two distinct configurations, wherein in the second configuration, the first mounting means may be used as cooling channels.

DiSimone teaches the use of a key slot arrangement. The basis for patentability of the present invention, as claimed in new Claims 1, 11 and 16, includes features

outside the scope of the key slot taught in DiSimone. Thus, all claims of the present invention directed toward a key depend from otherwise allowable independent claims. Therefore, the presently claimed invention includes novel features that are not taught in the combination of Hodler, Muramatsu and DiSimone.

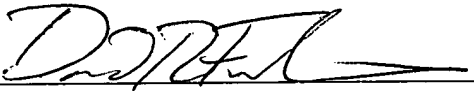
The current amendments do not add any new matter to the claims. They only serve to further elaborate on themes already presented in the earlier claims and explained in the specification.

CONCLUSION

Claims 1 – 13 and 16 – 20 have been amended taking into consideration the rejections presented in the Office Action. Muramatsu, Hodler and DiSimone fail to teach every element of amended independent Claims 1, 10 and 16, and are now therefore in condition for allowance. A notice to that effect is respectfully requested.

Respectfully submitted,

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